

Amendments to the Drawings:

Please replace sheet(s) 1-4 of the drawings with the attached replacement sheet(s) 1-4. The replacement sheet(s) incorporate the desired changes in the drawings, and each sheet includes all of the figures that appeared on the immediately prior version of that sheet.

Attachment: 4 Replacement Sheet(s)

Remarks:

This Amendment and the accompanying Request for Continued Examination are responsive to the Office action dated December 19, 2005. Claims 1-10 are pending in the application. In the Office action, the Examiner objected to the drawings and the specification for informalities. Further, claims 1, 4-5, and 7 were objected to for informalities.

Additionally, claims 1-10 were rejected under 35 U.S.C. § 112 for written description issues. Further, the Examiner rejected claims 1-10 as anticipated by U.S. Patent No. 6,229,607 to Shirai et al. ("Shirai et al.") under 35 U.S.C. § 102(b).

In view of the amendments above, and the remarks below, Applicants respectfully request reconsideration of the application under 37 C.F.R. § 1.111 and allowance of the pending claims.

Objections to the Drawings

The Examiner objected to Fig. 1 for not designating it as prior art. Accordingly, Applicant has added "Prior Art" to Fig. 1 as suggested by the Examiner to address this objection.

The drawings were also objected to for making reference to numbers not mentioned in the specification. Specifically, reference numbers 33 and 46 were identified as missing from the specification.

Applicants have amended the specification to associate reference number 33 shown in Figs. 2-3 with the slide or other holder first discussed on page 3. Figure 2 shows reference 33 pointing to the top of a slide mounted on a stage insert 30. Figure 3 shows reference 33 pointing to a cross section of the slide floating above stage insert

30. Slide or other holder 33 is described as being mounted in stage insert 30 and containing a sample to be investigated.

Reference number 46 identified as not being mentioned in the specification is actually discussed on page 5 with regard to the cable. Cable 46 connects to the piezoelectric actuators as shown in Fig. 5 and discussed on page 5, line 12. Accordingly, Applicants submit that the objections relating to reference number 46 are overcome.

Objections to the Specification

The Examiner objected to the specification for not including a Summary section. To address this objection, Applicants have added a Summary section to the specification.

Objections to the Claims

The Examiner rejected claims 1, 4-5, and 7 for informalities. To address the lack of antecedent basis for the XY plate assembly in claim 1, Applicants amended claim 1 to recite that the X-axis plate and the Y-axis plate define an XY plate assembly. Claim 2 was amended to recite that the piezoelectric actuator mechanism includes three spaced-apart piezoelectric actuators to address the lack of antecedent basis for piezoelectric actuators in claim 4 and claim 5. Finally, Applicants amended claim 7 to recite "the steps of" in the method claim as suggested by the Examiner.

Thus, Applicants believe that all claim objections have been addressed and placed in condition for allowance.

Claim Rejections under 35 U.S.C. § 112

The Examiner rejected claims 1-10 under 35 U.S.C. § 112 for failing to comply with the written description requirement. Specifically, the Examiner stated that the openings in the plates configured to allow passage of transmitted light in claims 1 and 7 was not sufficiently described in the written description. Applicants respectfully traverse this rejection for the following reasons.

Openings in the X-axis, Y-axis, and Z-axis plates configured to allow passage of transmitted light are shown in the figures sufficient to satisfy the written description requirement. For example, Fig. 4 shows Z-axis plate 28 and Y-axis plate 24, each with central openings configured to allow passage of transmitted light. Moreover, Fig. 3 shows an objective lens 12 positioned beneath openings configured to allow passage of transmitted light in each of X-axis plate 22, Y-axis plate 24, and Z-axis plate 28. In fact, a vertical line depicting light transmitting through the plate openings from outside the stage assembly to objective lens 12 is provided in Fig. 3.

One skilled in the art of optical microscopes would understand from the original disclosure that the plate openings were configured to allow passage of transmitted light because transmitted light is necessary to view samples. Claim 1 and 7 recite that the stage assembly is for use with an optical microscope. One skilled in the art would understand that transmitting light to the objective lens of the optical microscope would be necessary to view samples. Indeed, page 4 of the specification states that the openings are for viewing the sample by the objective lens. Because the openings are for viewing the sample, it would be considered inherent that the openings would be configured to allow passage of transmitted light.

Accordingly, Applicants submit that the plate openings configured to allow passage of transmitted light feature is shown and described sufficient to satisfy the written description requirement of 35 U.S.C. § 112 with regard to claims 1-10.

Claim Rejections under 35 USC § 102(b)

The Examiner has rejected claims 1-10 as being anticipated by Shirai et al. Applicants respectfully traverse the rejections, but have nonetheless amended the claims for clarity.

Claims 1-6

Claim 1 as amended recites:

For use with an optical microscope, a stage assembly mountable on an optical microscope for orienting a sample into a desired focal position comprising:

an X-axis plate operable for rectilinear **sliding** ~~shifting~~ in the X-axis direction;

a Y-axis plate mounted on the X-axis plate operable for rectilinear **sliding** ~~translation~~ in the Y-axis direction, **the x-axis plate and the y-axis plate defining an XY plate assembly;**

a Z-axis plate mounted on the XY plate assembly ~~for~~ **configured to carry** ~~carrying~~ a sample to be investigated; and

a piezoelectric actuator mechanism interposed between the XY plate assembly and the Z-axis plate operable for rectilinear translation of the Z-axis plate, wherein the X-axis, Y-axis, and Z-axis plates each includes an internal opening configured to allow passage of transmitted light and viewing of the sample by an objective lens of the optical microscope.

Because Shirai et al. does not disclose or suggest each feature recited in amended claim 1, the reference fails to anticipate the claim.

Shirai et al. does not disclose or suggest a Z-axis plate configured to carry a sample to be investigated as recited in amended claim 1. To the contrary, Shirai et al. shows a sample 42 resting on a coarse movement stage 42 separate from a Z moving

section 15. Because Z moving section 15 is not configured to carry sample 42, Shirai et al. does not anticipate claim 1. Further, Applicants respectfully disagree that one skilled in the art would equate the Shirai et al. probe tip 16 with the sample that the Z-axis plate is configured to carry in claim 1.

One skilled in the art would know that the sample recited in claim 1 is not the same as a probe tip of a scanning probe microscope. Shirai et al. describes probe tip 16 as a functional component of a scanning probe microscope which is used to investigate sample 42. Claim 1 recites a Z-axis plate configured to carry a sample to be investigated. Accordingly, one skilled in the art would know that a sample is something that is investigated, not something that does the investigating like probe tip 16. Moreover, Shirai et al. itself uses the word "sample" to describe something other than probe tip 16, which indicates that it would be inconsistent to equate probe tip 16 with the "sample" in claim 1.

Shirai et al. does not disclose or suggest X or Y-axis plates operable for rectilinear sliding as recited in amended claim 1. Rather, Shirai et al. discloses parallel plate bending sections 121a and 131a for moving the X and Y moving sections 122 and 132, respectively. Shirai et al. provides that "displacement of the X moving section 122 can be produced by the *bending* operation of the parallel plate bending sections 121a" whereas claim 1 recites rectilinear *sliding*. (Shirai et al. col. 7, ln. 39-40)(emphasis added). Because X and Y-axis plates operable for rectilinear sliding are different than plates operable for bending, Shirai et al. does not disclose the sliding feature of claim 1.

For at least these reasons, Shirai et al. fails to disclose each feature recited in amended claim 1. Accordingly, Applicants submit that Shirai et al. does not anticipate claims 1-6 and that they are, therefore, allowable under 35 U.S.C. § 102(b).

Claims 7-10 and 17

Claim 7 as amended recites:

A method for use with an optical microscope to facilitate focusing of an image comprising **the steps of:**

providing an XY plate assembly including an X-axis plate rectilinearly ~~translatable~~ **slidable** in the X-axis direction and a Y-axis plate mounted thereon rectilinearly ~~translatable~~ **slidable** in the Y-axis direction;

positioning a Z-axis plate on the XY assembly and mounting a sample on the plate, wherein the X-axis, Y-axis, and Z-axis plates each includes an internal opening configured to allow passage of transmitted light and viewing of the sample by an objective lens of the optical microscope; and

rectilinearly translating the Z-axis plate along the Z-axis for bringing the sample into focus.

Because Shirai et al. does not disclose or suggest each feature recited in amended claim 7, the reference fails to anticipate the claim.

Shirai et al. does not disclose or suggest mounting a sample on the Z-axis plate as recited in amended claim 7. Instead, Shirai et al. shows sample 42 resting on coarse movement stage 42 separate from Z moving section 15. As explained above, Applicants respectfully disagree that the Shirai et al. probe tip 16 is a sample, but even if it were, mounting probe tip 16 is not shown. Rather, probe tip 16 is a fixedly secured component of the scanning probe microscope instead of a something mounted on Z moving section 15.

Moreover, Shirai et al. does not disclose or suggest providing an XY plate assembly including an X-axis plate rectilinearly slidable in the X-axis direction or a Y-axis plate mounted thereon rectilinearly slidable in the Y-axis direction. To the contrary, Shirai et al. discloses providing plates with bending sections for moving the plates by bending. Because bending is not the same as sliding, Shirai et al. does not disclose each feature recited in claim 7.

Thus, Shirai et al. fails to disclose each feature of claim 7 as necessary to anticipate the claim under 35 U.S.C. § 102(b). Accordingly, Applicants submit that claim 7 is allowable as well as claims 8-10 and 17 depending from claim 7.

Claim 10, in addition to being allowable for depending from allowable claim 7, is allowable for reciting features not shown in Shirai et al. Shirai et al. does not disclose a slide insert on a Z-axis plate with a sample held thereby. In Fig. 7, the Shirai et al. sample 42 is shown on a coarse movement mechanism 43, which is entirely separate from the Z movement mechanism 15. Further, although Applicants assert that probe tip 16 is not a sample, even if it were a sample, it is not mounted to Z movement mechanism 15 by a slide insert. Thus, claim 10 recites features not disclosed by Shirai et al and, therefore, is not anticipated by it under 35 U.S.C. § 102(b).

Claim 17, in addition to being allowable for depending from allowable claim 7, is allowable for reciting features not shown in Shirai et al. For example, Shirai et al. does not disclose removing the sample from the Z-axis plate even if, arguendo, probe tip 16 was a sample. Further assuming that a probe tip is a sample for the sake of argument, Shirai et al. does not disclose mounting a second probe tip on the Z moving section. In fact, probe tip 16 is a fixedly secured component of the Z moving section.

Claims 11-16

New claims 11-16 are directed to a stage assembly as shown in the figures and described in the specification. Applicants submit that the claims are allowable over the prior art, including Shirai et al. For example, Shirai et al. does not disclose or suggest a stage insert configured to support a sample and selectively mount on a Z-axis plate. Further, Shirai et al. is not directed to X and Y-axis plates configured to slide in their respective axes. Moreover, as recited in claim 12, Shirai et al. does not disclose a stage insert dimensioned to position the sample proximal to the designed focal position of the optical microscope when mounted on the Z-axis plate.

Accordingly, Applicants submits new claims 11-16 for allowance.

Applicants believe that this application is now in condition for allowance, in view of the above amendments and remarks. Accordingly, Applicants respectfully request that the Examiner issue a Notice of Allowability covering the pending claims. If the Examiner has any questions, or if a telephone interview would in any way advance prosecution of the application, please contact the undersigned attorney of record.

CERTIFICATE OF MAILING

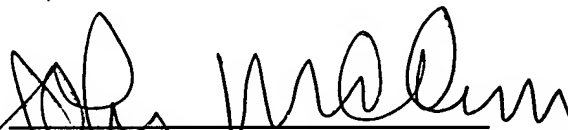
I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Mail Stop RCE, Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450 on May 19, 2006.



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Respectfully submitted,

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